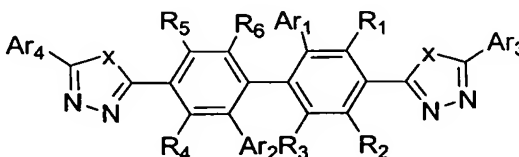


What is claimed is:

1. An organic light-emitting diode, comprising:
 - a transparent substrate;
 - an anode disposed on the transparent substrate;
 - at least one organic functional layer disposed on the anode;
 - a cathode disposed on the organic functional layer; and
 - a metal doped layer disposed between the cathode and the organic functional layer, wherein the metal doped layer comprises an organic compound represented by a formula (1) doped with a metal:

(1)



wherein R₁~R₆ are a hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted alkyloxy, substituted or unsubstituted alkenyl, substituted or unsubstituted amino, substituted or unsubstituted aromatic hydroxyl, substituted or unsubstituted polycyclic aromatic or substituted or unsubstituted aromatic alkyl; Ar₁~Ar₄ are substituted or unsubstituted aromatic hydroxyl, substituted or unsubstituted polycyclic aromatic, substituted or unsubstituted aromatic alkyl or substituted or unsubstituted aromatic heterocyclic; X is oxygen, sulfur, substituted or unsubstituted amino, or substituted or unsubstituted silane.

2. The organic light-emitting diode of claim 1, wherein one substitute of the functional groups is halogen, cyano or nitro.

3. The organic light-emitting diode of claim 1, wherein a glass transition
5 temperature is higher than 100 °C.

4. The organic light-emitting diode of claim 1, wherein the organic compound is alkali metal, alkaline-earth metal or transition metal.

10 5. The organic light-emitting diode of claim 4, wherein the alkali metal is Li, Na, K, Rb or Cs.

6. The organic light-emitting diode of claim 4, wherein the alkaline-earth metal is Be, Mg, Ca, Sr or Ba.

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7. The organic light-emitting diode of claim 4, wherein the transition metal is Y, La, Sm or U.

8. The organic light-emitting diode of claim 1, wherein a work function of the
20 metal is no more than 4.5eV.

9. The organic light-emitting diode of claim 1, wherein the metal doped within the organic compound is 0.5%~10%.

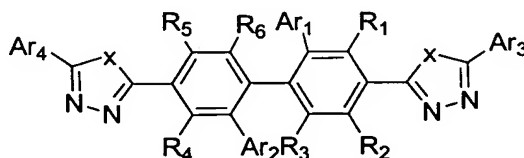
10. The organic light-emitting diode of claim 9, wherein the metal doped within the organic compound is preferred 1%~3%.

11. The organic light-emitting diode of claim 1, wherein the metal doped layer
5 has a thickness from about 0.5nm to about 100nm.

12. A material utilized for organic light-emitting diodes, the material comprising an organic compound doped with a metal, the organic compound represented by formula (1) below:

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(1)



wherein R₁~R₆ are a hydrogen, substituted or unsubstituted alkyl, substituted or
15 unsubstituted cycloalkyl, substituted or unsubstituted alkyloxy, substituted or
unsubstituted alkenyl, substituted or unsubstituted amino, substituted or unsubstituted
aromatic hydroxyl, substituted or unsubstituted polycyclic aromatic or substituted or
unsubstituted aromatic alkyl; Ar₁~Ar₄ are substituted or unsubstituted aromatic
hydroxyl, substituted or unsubstituted polycyclic aromatic, substituted or unsubstituted
20 aromatic alkyl or substituted or unsubstituted aromatic heterocyclic; X is oxygen,
sulfur, substituted or unsubstituted amino, or substituted or unsubstituted silane.

13. The material utilized for organic light-emitting diodes of claim 12, wherein one substitute of the functional groups is halogen, cyano or nitro.

14. The material utilized for organic light-emitting diodes of claim 12, wherein a
5 glass transition temperature is higher than 100 °C.

15. The material utilized for organic light-emitting diodes of claim 12, wherein the organic compound is alkali metal, alkaline-earth metal or transition metal.

10 16. The material utilized for organic light-emitting diodes of claim 15, wherein the alkali metal is Li, Na, K, Rb or Cs.

17. The material utilized for organic light-emitting diodes of claim 15, wherein the alkaline-earth metal is Be, Mg, Ca, Sr or Ba.

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18. The material utilized for organic light-emitting diodes of claim 15, the transition metal is Y, La, Sm or U.

19. The material utilized for organic light-emitting diodes of claim 12, wherein a
20 work function of the metal is no more than 4.5eV

20. The material utilized for organic light-emitting diodes of claim 12, wherein the metal doped within the organic compound is 0.5%~10%.

21. The material utilized for organic light-emitting diodes of claim 20, wherein the metal doped within the organic compound is preferred 1%~3%.